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An Account of the Recent Progress and Present Extent of Manufactures in Prussia, and of the Trade of the Prussian Commercial Union in Manufactured Goods. From German Official Documents.

THE progress of any nation in those branches of industry which have added so much to the power and wealth of this country, and which afford employment to so large a portion of its population, must at all times be a subject of interest; but the importance which has lately been attached to the extension of manufactures in foreign countries by the advocates of a change in the corn laws, will probably confer additional value upon the following information respecting the present condition of those interests in the Prussian States. It is chiefly the competition of Germany and Switzerland that our manufacturers profess to fear; and it is in those countries that the greatest impulse has recently been given to native industry. Of Switzerland it is not our present intention to treat; but we cannot forbear the expression of our admiration at the successful enterprise of a country which, with its limited means and local disadvantages, situated at so great a distance from any sea or débouché for its products, is nevertheless able to compete in distant lands, as well with the substantial fabrics of Great Britain as with the finest wares of France. Germany, on the other hand, particularly those parts in which manufactures are chiefly carried on, is more favourably situated. Eastern Prussia possesses numerous ports on an accessible and much-frequented sea; Saxony has an easy outlet by means of the Elbe; and the Rhenish provinces of Prussia are equally favoured by their proximity to the Rhine. These countries likewise have recently received a great stimulus, both to production and consumption, by the establishment of the Commercial Union, which, by removing all impediments to free intercourse between a number of separate states, formerly hedged in with vexatious customs' duties and regulations, by erecting a community of interests, and creating among the population both the desire and the power to acquire a larger share of the necessaries and comforts of life, has tended very much to encourage native production, and to develop the national resources. It is not surprising that countries, which have witnessed the advantages that Great Britain has derived from her manufactures, should wish to transfer them to their own shores, or at least to share in the benefits resulting from them; and even the very progress of population will have a powerful influence upon the establishment of manufactures. Prussia has a still greater incentive to render herself independent of England with respect to this branch of trade: our commercial policy has hitherto been to shut out by prohibitory duties those productions which she can offer in exchange for our manufactures. Under a system of free interchange, our commercial relations with Prussia might have been very extensive: her fields produce many articles of primary importance to us,—corn, timber, flax, hemp, &c. &c.; while we have the means of supplying her with the produce of our colonies and of our looms. A few years ago there were scarcely any two countries more favourably situated for commercial intercourse; but we declined receiving her produce, and there was no other country in want of it: she had, therefore, no foreign

market for the surplus of her agriculture, and her means of internal consumption were proportionably crippled. Still an increasing population must be clothed, but they had no means of paying the foreigner for his stuffs: they must find a means of livelihood, but agriculture no longer adequately afforded it; hence the peasants had recourse to manufactures: materials were at hand; some progress had already been made; flax and sheep's wool of superior quality supplied to all the means of an easy domestic occupation, by which they could furnish themselves with the clothing necessary for their own families, and with an additional quantity of cloth to exchange for the necessaries of life with those engaged in other employments. This system of domestic manufacture increased rapidly, and prevails to a great extent even at the present time, though chiefly in the weaving of the two materials already mentioned; for it has not been applied to that of silk, and only very partially to that of cotton. The supply of manufactured goods from this source would not, it is obvious, much exceed, even if it equalled, the demand: there was, therefore, no export; but of late years the introduction of machinery, and the erection of large establishments upon the same extensive system adopted in this country, have carried the production far beyond the existing demand for home consumption, and Prussia and Saxony at present export annually a large quantity of manufactured stuffs. The governments of those countries have encouraged this branch of industry; and the experience of their recent Union under the same system of customs affords a prospect of great advantage arising therefrom to both. It is of less consequence to British interests to trace the early progress of manufactures in these countries than to shew their advance during a recent period; we shall therefore contrast their condition in 1831 and 1837, and as our information for the latter year extends only to woven goods, we shall confine ourselves for the present to that class of manufactures.

Weaving, and the preparation of yarn for the use of the loom, are the most important branches of manufacturing industry in Prussia. In general, spinning by hand is so light an employment that it may be pursued with very little expenditure of bodily or mental strength by persons of almost any age; and it has this additional advantage, that it may at any moment be interrupted without injury, and resumed at pleasure. It is, therefore, well adapted for an occasional occupation during the intervals of other labours and household affairs. By the careful employment of these periods of leisure, large quantities of yarn may be spun in almost every dwelling of the labouring classes, particularly of those engaged in agriculture; and the outlay for the purchase of the simple implement required and of the raw material is so small, that the labourer is content with a very small profit upon the yarn produced. Weaving requires a more expensive implement, as well as greater skill, practice, and bodily strength, than spinning; but the amount of these required for the manufacture of plain cloths is so small, that weaving also may be carried on to a considerable extent, as an occasional employment. Agricultural families frequently weave in the spring the yarn which they have spun during the winter. The facilities which attend these two branches of labor have led to their extensive adoption throughout the whole of Prussia. Large quantities of

linen and woollen yarn are annually produced by hand; and, in 1837. there were no less than 246,294 looms occasionally employed in the manufacture of linen.

It will be useful, before proceeding further, to compare the qualities of English and Prussian yarns, and to state the relative value of those spun by machine and those spun by hand. In England, a hank of cotton yarn is of a uniform length, and consists of seven skeins, containing each 80 threads, of one yard and a half in length; it is therefore 840 yards, or 2,520 feet long.* Its quality or degree of fineness is estimated by the number of hanks which weigh a lb. M'Culloch states that the coarsest cotton twist made by machinery in England is No. 6, which is only adapted to candle-wicks; and the finest hitherto spun is No. 356. As the English foot contains 135·13 Prussian lines (or 139·13 Paris lines), the length of the thread contained in an English hank is $2,447\frac{1}{2}$ Prussian feet. The reel (Haspel) has a very different length in the several provinces of Prussia. In Silesia, with regard to linen yarn, the length of a thread may be taken at $3\frac{1}{2}$ Prussian ells, or $89\frac{1}{4}$ Prussian inches. According to the ordinance for regulating the Linen trade in this province, a skein (Gebinde) consists of 20 threads, a reel (Haspel) of 20 skeins, a hank (Strähn) of 3 reels, and a piece (Stück) of 4 hanks. The length of one such piece, therefore, is about 35,700 Prussian, or 36,757 English feet. But, throughout a great portion of the Prussian States, a piece is reckoned to consist of 20 skeins, of 40 threads each, and contains therefore only a sixth of the above length, viz., 5,950 Prussian, or 6,126 English feet, if the length of a thread be taken at $3\frac{1}{2}$ Prussian ells. This, however, is the case only in Prussia Proper: in Brandenburg and Pomerania it is 4 ells long; therefore the length of a piece of linen yarn in those two provinces is 6,800 Prussian, or 7,001 English feet; or 21 such pieces are equal to 4 of Silesia. Since, however, the greatest part of the trade in linen-yarn, at least in the eastern and central provinces of Prussia, is carried on with Silesia, the following calculation will be based upon the Silesian measure of yarn, and the hank of 8,925 Prussian, or 9,189 English feet. The length, therefore, of an English hank of linen yarn, bears to the Silesian hank the proportion of $2,447\frac{1}{2}$ to 8,925, or of about 3 to 11. According to Eytelwein's comparison of weights and measures, the English lb. avoirdupois, is equal to 9,062 Dutch grains (Ass), of which 9,728 equal one Prussian lb.; therefore the proportion which the Prussian bears to the English lb. is as 4,864 to 4,531, or nearly 44 to 41. Consequently, if 41 English hanks weigh an English lb., 44 will weigh a Prussian lb.. But as 11 English hanks contain a thread of the same length as that contained in 3 Silesian hanks, therefore 44 English hanks are equal in length to 12 Silesian hanks; and, *similibus paribus*, if 41 English hanks weigh an English lb., 12 Silesian hanks will weigh a Prussian lb.

It is very probable that a linen thread has a smaller diameter than one of cotton, although the same length of each will weigh alike; but it would be impossible to judge of the fineness of the yarn by its diameter,

* The weights and measures quoted in this paper are according to the English standard, unless expressly stated to be otherwise.

because it is exceedingly difficult to measure that accurately. Hence the fineness of cotton and flax yarn can only be compared by weight; and it must be assumed that a linen thread is as fine as one of cotton, if an equal length of each is of the same weight. Accordingly, linen yarn, of which 12 Silesian hanks weigh a Prussian lb., must be considered to be as fine as cotton yarn of 41 English hanks to the lb.; and cotton yarn, of which 356 English hanks weigh an English lb., would be as fine as linen yarn of which 104 Silesian hanks weigh a Prussian lb.; therefore, the hank weighs only $\frac{1}{4}$ lb., or $1\frac{3}{8}$ dram (Quentchen). The cotton twist, however, most in use, is very much under this degree of fineness, which is the highest hitherto made. The numbers which are principally used in Prussia are between 38 and 42: according to the preceding calculation, No. 41 would be a yarn of which 12 Silesian hanks weigh a Prussian lb., or one hank $2\frac{3}{8}$ loth. The highest number quoted in the *Berlin Price Current* during the year 1838 was 200, which is a yarn of which $58\frac{1}{2}$ Silesian hanks would weigh a Prussian lb., or one hank weigh $2\frac{3}{16}$ drams.

Flax is by far the cheapest of the materials used in weaving; but the yarn made from it is dearer than that of cotton, because it is still chiefly made by hand. The *Berlin Price Current* of the 28th September, 1838, quotes the prices of cotton wool at 17 to 27 dollars a centner (5*d.* to 8*d.* per lb. avoirdupois), according to its quality; the average may therefore be taken at 22 dollars per centner, or $6\frac{1}{2}$ *d.* per lb. The prices of flax are so very different in the several parts of Prussia, not merely on account of the difference of locality or of cultivation, but of the different state (as regards cleansing) in which it is brought to market, that the highest price is more than double the lowest. In August, 1838, the average price of a centner of Memel flax is quoted at 8 $\frac{3}{4}$ dollars ($2\frac{1}{2}$ *d.* per lb.), while that of Hirschberg reached 18 $\frac{1}{4}$ dollars ($5\frac{1}{2}$ *d.* per lb.); the two articles being certainly in a very different condition. In general, it may be assumed, that the price of flax in Prussia is, on an average, about half of that of cotton. In the same Price Current, a lb. of the English machine-spun yarn, most commonly used for weaving, viz., mule-twist prima, Nos. 38 to 42, is quoted at 13 to 14 silver groschen; the average of which is exactly equal to 1*s.* 5*d.* per lb. English. The *Silesian Gazette* of August, 1838, quotes the price of a shock of 60 pieces of linen yarn, at Frankenstein, at 26 dollars, or 3*l.* 16*s.* 11*d.*; and this is the kind most used in the mountainous districts. According to the calculation already given, an English hank of cotton yarn contains a thread of 2,447 $\frac{1}{2}$ Prussian feet in length. An English lb. contains 40 such hanks of No. 40, or a thread of 97,000 Prussian feet long; and, consequently, a Prussian lb. contains a thread of 105,000 Prussian feet in round numbers. On the other hand, a Silesian piece of yarn contains a thread of 35,700 Prussian feet; and a shock, of 60 such pieces, a thread of 2,142,000 feet. The proportion, therefore, of the cotton to the linen yarn, is as 105 to 2,142, which is exactly 5 to 102. The average price of a Prussian lb. of the former is 13 $\frac{1}{2}$ silver groschen, and therefore the latter would cost 275 $\frac{1}{2}$ silver groschen, or nearly 9 $\frac{1}{8}$ dollars, if it were sold at the same rate: but it actually cost 26 dollars, or nearly three times as

much. It cannot, indeed, be asserted that No. 40 mule-twist and the yarn which is brought to market in the largest quantities at Frankenstein are of the same degree of fineness; but it is sufficient for our present purpose that both are used for equally common kinds of cloth.

It results from this calculation, that the ordinary kinds of linen cloths are generally three times as dear as those of cotton, supposing that the cost of weaving and finishing is the same in both cases. But this comparison refers only to cloths made of yarn which is spun by extra labor or occasional employment, and is therefore exceedingly cheap; the contrast is much more favorable to cotton in the manufacture of fine cloths, for which the linen yarn must be spun by men possessing great skill, and following solely this occupation; for experience proves that linen batist is at least six times dearer than cotton goods of the same fineness of thread. Flax cannot, as yet, be spun by machine finer than No. 41 of the English machine-spun yarn. The great flax-spinning factories of Waldenburg and Freiburg, in Silesia, generally produce a yarn of which the Silesian reel weighs $3\frac{1}{2}$ loth (49 grs.); the finest which they have hitherto spun weighs $2\frac{3}{4}$ loth (38 grs.); therefore, 12 reels of the latter weighs 33 loth, or rather more than a Prussian lb. According to the foregoing statements, the same length of thread is of equal weight, if 41 English hanks weigh an English lb., and 12 Silesian reels weigh a Prussian lb. Of the common yarn at $3\frac{1}{2}$ loth to a reel, 12 reels weigh 42 loth or $\frac{9}{16}$ of a Prussian lb. According to the same calculations, 41 English hanks of yarn of the same length to the same weight weigh $\frac{9}{16}$ of an English lb.; therefore $31\frac{1}{5}$ English hanks weigh an English lb.: that is, the yarn in question would be about No. 31 or 32. It appears, from a competent authority, that a lb. of the finest linen yarn which can be spun by hand, namely, lace thread, contains 234,000 ells. Upon the supposition that the Prussian weight and measure are here meant, this yarn would be of the same quality as No. 190 of English mule-twist; for a Prussian lb. of it contains a thread of 497,250 feet; which is equal in length to $55\frac{7}{8}$ Silesian reels. But if 12 Silesian reels weigh a Prussian lb., and 41 English hanks weigh a lb. avoirdupois, $55\frac{7}{8}$ Silesian reels are equal to $190\frac{5}{8}$ English hanks. Therefore flax cannot be spun by hand nearly so fine as cotton can by machine. According to the *Berlin Price Current*, above quoted, the price of cotton-twist-mule prima, No. 200, was $23\frac{1}{2}$ silver groschen (2s. $5\frac{3}{4}$ d. per lb.), whilst the price of a lb. of the above lace thread would be scarcely less than 100 dollars, or 15*l.* 17*s.* per lb. This will afford some notion of the enormous difference in the cost of spinning the higher numbers of yarns, of the high price which the hand-spinner is obliged to demand, and of the low price at which yarn of the same degree of fineness can be produced by machinery. The difficulties, however, which obstruct the spinning of flax by machinery render it at present impossible to make the yarn much cheaper than it can be produced by hand. Hitherto, therefore, the effect of the application of machinery to flax-spinning has been to supply a sufficiency of yarn to meet the existing demand, without a rise of prices; whilst only so much hand-spun yarn can be sold at the present prices as can be produced by extra employment, or in other words, at a profit below the market price of labor. Whenever the progress of

mechanics and chemistry shall render it possible to spin flax of equal fineness and at the same cost as cotton, without any great injury to its tenacity (in which consists the excellence of linen yarn), a great revolution must take place in the agricultural, manufacturing, and commercial relations of Prussia. At present linen maintains its competition with cotton, principally on account of its durability and smoothness, notwithstanding the difference of price; and from the throne to the hut the under-garment, at least, is still made of linen.

The price of wool varies still more than those of flax and cotton, according to its quality; some costs 30, and some 120 dollars per centner, or from 9*d.* to 3*s.* per lb. At a moderate computation, therefore, the average price of the middling sorts of wool may be estimated at three times that of the middling sorts of cotton. But the natural qualities of sheep's wool are such that it can be spun by machinery with as much advantage as cotton. Its peculiar properties are, lightness, the power of giving a nap to the cloth, and of receiving a permanent dye; and hence, notwithstanding the difference in the price of the raw material, woollen goods continue to be used for all purposes requiring thickness and durability.

The yarn made from sheep's wool is divided into two kinds, woollen and worsted. The first is employed in all manufactures that are fulled in order to cover the surface with a uniform nap which will hide the thread. This yarn is not generally brought to market, but each cloth-manufacturer prepares as much as he wants for his own consumption. This is the case where the business is carried on upon a small scale, and with little capital, partly by hand, but principally by spinning-machines of various power, according to the several wants of the parties. The yarn used in the commonest stuffs measures 23,800 Prussian feet to a Prussian lb. (or 26,300 English feet to a lb. avoirdupois); but in many cases it is only of half this fineness; and hence the thread which weighs a Prussian lb. is only 11,900 Prussian feet (or 13,150 feet to a lb. avoirdupois). Woollen yarn is seldom spun finer than 47,600 Prussian feet to a lb. (or 52,600 feet to a lb. avoirdupois); some, however, is produced in the western provinces of Prussia, which measures 50,900 feet to a lb. (or 56,240 feet to a lb. avoirdupois). This is not quite twenty-one times the length of an English hank of cotton mule-twist. Therefore the highest number of woollen yarn is equal in fineness to English mule-twist of about No. 20; but, for ordinary cloths, yarn of one-half this fineness is sufficient; and for coarse cloths, yarn one-quarter as fine: so that in spinning wool the advantage is lost which cotton possessed, namely, that the machine can produce much finer yarn than the hand at a comparatively less increase of cost. In fact, a greater degree of fineness would not be desirable for cloths which are intended for fulling. The cost of spinning a Prussian lb. of woollen yarn varies, according to the fineness of the yarn, from 3 to 16 silver groschen, or 3½*d.* to 1*s.* 8½*d.* per lb. avoirdupois; the price of the material may be taken at from 15 to 45 silver groschen, or from 1*s.* 7*d.* to 4*s.* 9*d.* per lb.: therefore the cost of producing a lb. of woollen yarn will vary, according to its quality, from 18 to 61 silver groschen, or from 1*s.* 10½*d.* to 6*s.* 5½*d.* per lb. Hence woollen yarn, on account chiefly of the higher price of its

material, is always considerably dearer than cotton mule-twist of the same degree of fineness. It is otherwise with worsted yarn, by which is meant the yarn made from longer wool and twisted stronger, and used for cloths in which the thread is left visible. In Pomerania worsted yarn is still spun by hand; the kind commonly used measures about 48,000 Prussian feet to a lb. (or 53,042 feet to a lb. avoirdupois); it is therefore of about the same degree of fineness as No. 18 of English cotton mule-twist, but is about double the price, or from 25 to 30 silver groschen the Prussian lb. (or 2s. 7 $\frac{3}{4}$ d. to 3s. 2d. per lb. avoirdupois). Some, however, is also spun by hand, which is twice as fine. But the greatest part of the worsted yarn for home consumption is produced by machinery; not indeed in Prussia, where the manufacture is still very limited, but in England, whence Prussia principally obtains her supply of this article. The English spinners have already attained to No. 100, which is a thread measuring 244,750 Prussian feet, or 270,460 English feet to a lb. The progress of this manufacture has of late caused an increased consumption of light woollen goods, instead of cottons; but the latter still hold their ground against woollens by means of the superior cheapness of the material, and against linens by the cheapness of spinning.

Cotton Spinning.—Weaving is almost entirely confined in Prussia to four materials,—flax, cotton, sheep's wool, and silk; a little hemp is used, but manufactures made of it are included in the following statements with those of flax. Machinery for spinning was first applied to cotton, and afterwards to sheep's wool, and at present yarn of these two materials, spun by hand, can no longer be used with advantage for purposes of weaving. According to the accounts made up to the end of the year 1837 there were in the whole of the Prussian States 152 establishments for spinning cotton, which contained 125,972 spindles. In the kingdom of Saxony, at the same period, there were 107 similar establishments, containing 370,805 spindles, making a total of 496,777, or nearly half a million in the two countries. The number of spindles employed in the cotton manufacture of the United Kingdom was estimated, in 1833, at 9,333,000; and, in the United States of America, the actual number, in 1831, was 1,246,503. So that the power of manufacturing twist in Prussia and Saxony, in 1837, was less than 1-19th, or 5 $\frac{1}{2}$ per cent., of what it was in the United Kingdom in 1833, and 2-5ths of what it was in the United States in 1831. But Prussia, and the States within the Prussian Commercial Union, import annually a large quantity of cotton twist, chiefly from Great Britain. The following statements will shew the trade of the Union in cotton wool, and cotton twist, in the years 1835 and 1836. It would not afford the means of comparison to shew the course of trade in the years preceding 1835, as the Union was composed of different states in each year, and a contrast would lead to fallacy. The quantities of raw cotton imported into, and exported from, the Union, were, in—

	Imports. lbs.	Exports. lbs.	Excess of Imports. lbs.
1835	14,285,437	3,665,532	10,619,905
1836	22,176,407	4,190,023	17,986,384

There is no duty upon the importation of raw cotton, but a duty of

15 silver groschen per centner, or 1s. 4 $\frac{3}{4}$ d. per cwt. on exportation. The quantities imported into each State in 1835 were as follows:—

Prussia, viz.—Prussia Proper	lbs. 15,634
West Prussia	69,681
Posen	..
Brandenburg	4,797,537
Pomerania	440,099
Silesia	5,698
Saxony	2,504,714
Westphalia	296,530
Rhenish Provinces	4,973,096
Total	13,102,991
Kingdom of Bavaria	503,107
,, Saxony	324,629
,, Württemberg	210,620
Electorate of Hesse	49,074
Grand Duchy of Hesse	94,972
Thüringia	..
Total	14,285,397

From the first statement it will be perceived, that the excess of importation of raw cotton over the exportation had increased 70 per cent. in the year 1836, compared with the preceding year; and from the second, that $\frac{1}{12}$ ths of the imports were brought into Prussia. Of this almost the whole was imported into Brandenburg, Saxony, and the Rhenish provinces. Cotton twist pays on importation a duty of two dollars a centner, which is equal to '6 of a penny, or rather more than a halfpenny per lb. There is no duty on its exportation. The trade of the Union in this article was as follows in 1835 and 1836:—

		Imports.	Exports.	Excess of Imports.
		lbs.	lbs.	lbs.
White single twist {	1835	28,906,000	3,413,000	25,493,000
	1836	36,343,000	3,298,000	33,045,000
		Imports.	Exports.	Excess of Exports.
		lbs.	lbs.	lbs.
Double twist . . {	1835	764,000	1,352,000	588,000
	1836	1,085,000	1,399,000	314,000

The excess of import, therefore, of single twist had increased 30 per cent., and the excess of export of double twist had decreased 46 per cent. in the latter year.

The following were the quantities imported into each State during the year 1835:—

	Total of Yarn.	Of which was Double
	lbs.	Twist, Thread, and Dyed Yarn.
Prussia, viz.—Prussia Proper	9,502	9,447
West Prussia	36,539	16,238
Posen	..	..
Brandenburg	5,504,341	104,942
Pomerania	9,935	5,113
Silesia	2,223,820	51,535
Saxony	3,103,508	18,784
Westphalia	78,469	9,877
Rhenish Provinces	9,136,514	209,678
Total of Prussia	20,102,628	425,616

	Total of Yarn. lbs.	Of which was Double Twist, Thread, and Dyed Yarn. lbs.
Brought forward	20,102,628	425,616
Kingdom of Bavaria	1,791,119	84,113
„ Saxony	5,645,393	53,571
„ Württemberg	506,921	43,260
Electorate of Hesse	195,896	26,764
Grand Duchy of Hesse	537,281	116,134
Thüringia	891,084	14,647
Total	29,670,327	764,108

These statements shew that 94 per cent. of the raw cotton, and 86 per cent. of the cotton twist, imported into the Union, was brought into consumption in Prussia and Saxony; and, therefore, the extent of the cotton manufacture in the other States is very limited. Bavaria ranks the next, but its importation amounts to little more than 1-20th of that of the above two countries.

Although the principal portion of the cotton twist used in Prussia is imported from Great Britain, yet there are several large spinning establishments in the Rhenish provinces. There are—

	Establishments.	Containing Spindles.	Averaging each.
In the District of Düsseldorf	29	65,677	2,264
„ „ Cologne	9	18,670	2,074
„ „ Coblenz	2	14,000	7,000

Wool Spinning.—Woollen yarn is partly spun in large establishments, but principally by small machines of 40 spindles: still the spinning of wool by hand has by no means ceased in Prussia, although it has become so unprofitable that it must of necessity be relinquished as the manufacture by machinery increases. The force of custom is so great, that manufacturing processes continue to creep on long after they have been superseded by new improvements. Prussia is chiefly supplied with wool from her own flocks; some foreign wool is annually imported, but a much larger quantity of native growth is exported. The number of sheep in the whole kingdom in the year 1834 was 12,632,277. The number in 1831 was 11,751,603; the increase, therefore, in the three years, was $7\frac{1}{2}$ per cent. But this increase was proportionably much greater in the superior breeds of sheep, as will appear from the following statement:—

	Merinos and Whole-bred Sheep.	Half-bred Sheep.	Common Sheep.
In 1831	2,397,171	5,301,385	4,053,047
1834	2,831,553	5,839,332	3,961,392
Increase	434,382	537,947	91,655
Decrease . . . . .	..	..	..

Thus the best sheep had increased nearly a fifth, and the middling sheep a tenth, while the number of common sheep had fallen off more than 2 per cent. As it is reckoned that the best sheep yield annually 3 Prussian lbs. of wool, the middling $2\frac{1}{2}$ lbs., and the common 2 lbs., it is obvious that the production of wool had greatly increased

during the above period. The number of sheep, distinguishing Merinos and whole-bred in each province, was as follows in 1834 :—

	Total Number of Sheep.	Of which were Merinos and Whole-bred.
Prussia Proper . .	1,613,293	549,247
Posen	1,723,462	244,622
Brandenburg . .	2,193,901	523,546
Pomerania . . .	1,826,882	498,295
Silesia	2,400,215	609,514
Saxony	1,905,338	373,111
Westphalia . . .	438,189	17,941
Rhenish Provinces .	530,997	15,277
	<hr/> 12,632,277	<hr/> 2,831,553

The number of sheep is greater in Silesia and Brandenburg than in any of the other provinces; but the proportion of Merinos and of the best breed is greatest in Prussia Proper and Pomerania. Of the total number of sheep in the whole of Prussia $22\frac{1}{2}$ per cent. were of the Merinos and superior breeds. M'Culloch estimates the number of sheep in Great Britain and Ireland at 32,000,000, or two and a half times as many as in Prussia.

M. Ferber, who wrote upon the commerce of Prussia in 1832, estimates the average produce of wool at one stone of 22 lbs. Prussian, or $23\frac{2}{3}$ lbs. English to 10 sheep. Upon this calculation the total production in 1831 amounted to 27,745,248 lbs. English; and, in 1834, to 29,824,497 lbs., shewing an increase of 2,079,249 lbs., or $7\frac{1}{2}$ per cent. In order to exhibit the actual consumption of the country, there must be deducted from the above quantities the difference between the quantities of foreign wool exported and those imported during the same years, which were as follows :—

	Imports. lbs.	Exports. lbs.	Excess of Exports. lbs.
In 1831	3,936,808	8,316,772	4,379,964
1834	6,592,140	12,246,777	5,654,637

There remained, therefore, for home consumption in 1831, 23,365,284 lbs.; and, in 1834, 24,169,860 lbs.

The wool which is imported is of a coarse kind, and is chiefly brought from Poland into the provinces of Posen and Silesia. The exportation, on the other hand, consists principally of fine wool, which is shipped at Hamburg to England.

The following were the quantities of wool imported into, and exported from, the states of the Prussian Union in each year from 1834 to 1836. There is no duty on importation, but on exportation it amounts to 2 dollars per centner, or 5s. 7d. per cwt.

	Imports. lbs.	Exports. lbs.
In 1834	10,357,692	15,199,690
1835	13,243,192	17,757,788
1836	13,314,370	21,032,870

The trade of each State, in 1835, is shewn in the following a count :—

	Imports. lbs.	Exports. lbs.
Prussia, viz.—Prussia Proper . . .	272,405	176,352
West Prussia . . .	1,140,292	..
Posen . . .	2,315,796	171,971
Brandenburg . . .	116,451	6,897,475
Pomerania . . .	39,232	1,333,526
Silesia . . .	3,717,025	13,415
Saxony . . .	1,285,367	3,904,950
Westphalia . . .	504,968	182,644
Rhenish Provinces . .	579,367	955,603
Total . . .	9,970,906	13,635,939
Kingdom of Bavaria . . .	980,224	174,459
,, Saxony . . .	1,688,336	2,452,113
,, Würtemberg . . .	203,548	504,096
Electorate of Hesse . . .	44,319	27,533
Grand Duchy of Hesse . . .	355,855	810,714
Thüringia . . .	..	152,933
Total . . .	13,243,192	17,757,788

The principal importation is into the provinces of Silesia and Posen, while the chief exportation is from Brandenburg, Saxony, and Pomerania. It is in the provinces of Brandenburg and the Rhine that the manufacture of woollen yarn and cloths is most extensively carried on.

The two following statements shew the quantities and prices of wool sold at Berlin and Breslau in each year from 1832 to 1837.—(*See* Tables, p. 146.)

The number of machines for spinning woollen yarn in Prussia at the close of the year 1837 was 4,143, containing 401,210 spindles. Of these, 798 machines, and 55,316 spindles, were employed in the preparation of worsted yarn; and 3,345 machines and 345,894 spindles in that of woollen yarn; so that more than 6-7ths of the whole number were employed in the latter branch. The manufacture of woollens can no longer be carried on profitably with hand-spun yarn: yet, to a considerable extent, particularly in the manufacture of stuffs from woollen-yarn, spinning and weaving have not been separated; and a number of manufacturers transacting business upon a small scale, and using hand-looms, buy the raw wool, and prepare and spin it for their own looms. The last-mentioned process is generally carried on by machines of 40, or even fewer, spindles; but as the manufacture advances the power of these machines is increased, and there are now some which work 1,000 and even 2,000 spindles. The number of machines and spindles in each province is as follows:—

	Machines.	Spindles.	Average No. of Spindles to each Machine.
Prussia . . .	107	3,550	33
Posen . . .	877	35,965	41
Brandenburg . .	1,239	128,867	104
Pomerania . . .	359	13,912	39
Silesia . . .	598	52,609	88
Saxony . . .	649	52,398	81
Westphalia . . .	133	6,640	50
Rhenish Provinces .	181	107,269	594
Total . .	4,143	401,210	97

From this it appears, that the manufacture of woollen yarn is carried

on by hand upon a very small scale in the provinces of Prussia, Posen, and Pomerania, the average number of spindles to a machine not exceeding 33 to 41.

Quantities of Wool brought to Market and Sold at Berlin, with the Average Prices thereof in each Year from 1832 to 1837.

YEARS.	Brought to Market.	Per-Centage Proportion Sold.			Per-Centage Proportion Remaining Unsold.	Average Prices per lb.									
		For Home Consumption.	For Exportation.	Total.		Fine.	Middling.		Ordinary.						
							s.	d.	s.	d.	s.	d.			
1832	2,711,108	43.	50.	93.	7.	2	1½	3	1½	1	8½	d.	s.	d.	s.
1833	2,621,863	43.3	46.7	90.	10.	1	9	2	9	1	0	1	1½	to 1	8½
1834	4,391,650	45.5	43.	88.5	11.5	2	7½	3	6	2	4½	1	0	”	1
1835	5,352,213	40.9	50.6	91.5	8.5	2	6	”	3	1½	0	”	2	4½	1
1836	5,708,484	37.2	46.	83.2	16.8	2	7½	”	3	0	2	”	2	6	0
1837	8,047,267	61.2	11.8	73.	27.	1	10½	”	2	10½	1	6	”	1	9

A similar Account of Sales and Prices at Breslau in the same Years.

YEARS.	Markets.	Brought to Market.	Average Prices per lb.					
			First Shearing.			Second Shearing.		
			Fine.	Middling.	Ordinary.	Fine.	Middling.	Ordinary.
1832	Spring	lbs. 4,360,485	s. d. s.	s. d. s.	s. d. s.	s. d. s.	s. d. s.	s. d. s.
	Autumn	1,018,879	4½ to 3	1½ 1 10½	2 0 1 6	to 1 8½	1 6½ to 1 7½	1 3½ to 1 4½
1833	Spring	4,608,624	2 9	2 6	1 9	2 0	1 9½	1 7½
	Autumn	925,384	2 1½	2 6	1 8½	2 0	1 7½	1 5½
1834	Spring	5,233,928	2 6	2 1½	1 10½	2 0	1 9½	1 7½
	Autumn	921,843	2 3	2 4½	1 3	1 4½	2 1½	1 7½
1835	Spring	6,032,646	2 4½	2 1½	1 11½	2 0	1 10½	1 8½
	Autumn	1,168,683	2 1½	2 5½	1 6	1 7½	2 1½	1 5½
1836	Spring	5,775,890	2 4½	2 10½	1 3½	1 10½	2 0	1 9
	Autumn	406,442	2 0	2 9	1 6	1 8½	2 3½	1 9
1837	Spring	5,986,017	1 10½	3 1½	1 9	1 4½	1 3	1 4½

In Westphalia there has been a partial introduction of the system of manufacturing on a large scale, as the average number of spindles rises to 50; but this improvement is almost confined to the district of Arnsberg, in which there is one wool-spinning machine with 1,500 spindles. The same system is still further developed in Saxony and Silesia, where the average number of spindles is respectively 81 and 88. The districts in which it is chiefly carried on are—

Erfurt, containing 5 machines with	8,000	spindles.
Merseburg, ,, 1 ,,	1,040	,,
Breslau, ,, 1 ,,	1,760	,,
Liegnitz, ,, 6 ,,	10,650	,,

Only those machines are included which work more than 1,000 spindles. In Brandenburg there are 104 spindles to a machine. The manufacture is partly carried on upon a large scale; while in some parts several rich proprietors of factories have united to establish extensive spinning establishments for their common supply. The district of Frankfurt contains 18 establishments, in which the number of spindles exceeds 1,000; their aggregate number is 49,310. But by far the greatest proportion of spinning is carried on in the Rhenish provinces, and particularly in the district of Aix-la-Chapelle.

Districts.	Machines.	Spindles.	Average Number of Spindles to each Machine.
Aix-la-Chapelle	72	77,704	1,079
Cologne	25	11,866	475
Düsseldorf	51	12,493	245
Coblenz	22	3,780	172
Trier	11	1,426	130
Total of Rhenish Provinces	181	107,269	594

In 1837 the number of factories for spinning wool, in Saxony, was 116, containing 78,014 spindles; of these, 102 factories and 58,394 spindles were employed in the manufacture of woollen yarn, and 14 factories, with 19,620 spindles, employed in that of worsted yarn—the former being in the proportion of three-fourths of the whole number.

Both the importation and exportation of woollen yarn into Prussia and the other States of the Union are inconsiderable. In 1835 the quantity imported into the whole Union was 299,843 lbs., and the quantity exported 298,428 lbs. In 1836 the importation amounted to 448,349 lbs., the exportation to 283,789 lbs., leaving an excess of importation to the amount of 164,560 lbs. Of the exports in 1835, 155,470 lbs., or more than one-half, were from Prussia, and the remainder principally from Bavaria. The imports into Saxony are not distinguished; the exports amounted only to 16,645 lbs.

Flax Spinning.—The number of flax-spinning factories in Prussia, at the close of 1837, was 7, containing 10,444 spindles. It appears that there were 6 similar establishments in Saxony at the same period. The extensive linen manufacture of these two countries is chiefly supplied with yarn spun by hand; and it is this employment which affords occasional occupation to a very large portion of the population, both in the towns and rural districts. A large quantity of yarn, however, is imported from abroad; and the export, which was formerly consider-

able, is annually falling off. The importation into the whole Union amounted in 1836 to 5,308,535 lbs. of raw yarn, and 1,288,738 lbs. of bleached and dyed yarn and thread; the exportation in the same year amounted to 3,141,750 lbs. of raw, and 676,891 lbs. of prepared yarn: the imports, therefore, exceeded the exports by 2,166,785 lbs. of raw, and 611,847 lbs. of prepared yarn. The duty on the importation of raw yarn is 5 silver groschen per centner, or $5\frac{1}{2}d.$ per cwt.; on that of bleached or otherwise prepared yarn 1 dollar per centner, or $2s. 9\frac{1}{2}d.$ per cwt. There is no duty on the exportation of either.

The principal importation of raw yarn is into Westphalia: it amounted to 2,094,775 lbs. in 1832, and to 2,506,529 lbs. in 1835. Saxony imported 900,358 lbs. in 1832; and in 1835 no less than 6,152,938 lbs.; which, however, is more than the imports into the whole Union during the following or any other year. In 1836 it is not distinguished from the other States of the Union. The principal exportation of raw yarn was formerly from Silesia. In 1832 it amounted to 4,002,207 lbs.; but in 1835 had fallen to 647,969 lbs., which decrease was caused by the loss of the trade with Bohemia. Formerly there was an interchange in the linen manufacture between these two countries; the yarn was spun in Silesia, woven in Bohemia, and returned in an unprepared state to the former country, where it was bleached and brought to market. An alteration in the Customs regulations of Bohemia has put a stop to this trade.

Although the linen manufacture is spread over the whole of Prussia, there are three districts in which it is more extensively carried on than in the rest, and in which it has flourished for centuries. These are Ermeland, in East Prussia, where a coarse yarn is spun by the agriculturists, of which, notwithstanding the competition with English machine-spun yarn, a considerable quantity is still sent by sea to England;—Silesia, where the yarn is partly spun by machinery, partly by hand, and whence the linen is exported by Hamburg and Bremen, and lately by Stettin to America, where it competes with the Irish linen;—and lastly, Westphalia and the Rhenish provinces. Frederic the Second used to call Ravensberg his good little spinning-ground (*sein gutes Spinnerlündchen*). Here, and in the district of Minden, the whole of the finest yarns produced in Germany are spun. Notwithstanding that flax is cultivated very extensively throughout Prussia, the quantities imported have generally exceeded those exported. The year 1836 was an exception; but in the five preceding years the imports, on an average, exceeded the exports by one-third. In 1835, the quantities of flax, hemp, and tow imported, was 16,806,604 lbs; the quantities exported, 11,900,715 lbs. In 1836 the imports amounted to 18,199,344 lbs.; the exports to 21,229,892 lbs. There is a duty of 5 silver groschen per centner, or $5\frac{1}{2}d.$ per cwt., on importation, and none upon exportation.

Silk Throwing.—The raw silk which is brought into the market should not be compared with flax, cotton, or wool, but rather with the yarn made from those materials, because it is already a fabrication, consisting of several threads of the silk-worm twisted together in reeling off the cocoons, and there is no occasion for what can strictly be called spinning by hand. The Prussian Customs' accounts do not distinguish the imports of raw silk: it is included, strange to say, among the un-

enumerated articles. Ferber, however, in 1832, estimated the annual importation at from 670,000 to 700,000 lbs. A small quantity is produced in Prussia—chiefly in Brandenburg—and by village schoolmasters. In 1837 the number of persons engaged in its production was 256, of whom 208 were in the above province. The quantity produced by the latter number was 1,640 lbs., therefore the whole produce may be estimated at 2,150 lbs. The quantity of dyed, bleached, and thrown silk imported into the Union, in 1836, was 196,079 lbs., and the quantity exported was 76,259 lbs., leaving a surplus of imports to the extent of 119,820 lbs. Raw silk pays upon importation the unenumerated duty of 15 silver groschen a centner, or $1s. 4\frac{3}{4}d.$ a cwt.; silk dyed, or otherwise prepared, pays 6 dollars a centner, or $16s. 9d.$ a cwt. Both are free upon exportation.

Manufacture of Linens.—The weaving of linen yarn gives employment to a much greater number of looms than that of any other material. It is very general throughout the whole of the States forming the Prussian Commercial Union, although in some parts it is more concentrated than in others. In Prussia, as has been already stated, it is more especially carried on in three districts—Ermeland in East Prussia, Silesia, and Westphalia with the Rhenish provinces. The linens of Bielefeld, in Westphalia, are well known. The whole country about Herford and Warendorf, in the same province, and about Elberfeld, Barmen, and Düsseldorf, in the Rhenish provinces, produces excellent linen, which is much sought after in foreign countries. Elberfeld and the surrounding country produces in particular much linen ribbons and tapes. With respect to the other States of the Union, the manufacture is very general in Bavaria, partly in the towns, but chiefly in the rural districts. It consists for the most part of house-linen, which is made in sufficient quantities to supply the home demand. Bavaria exports some linen wares, but chiefly coarse fabrics, raw yarn, and raw unfinished linens. In Würtemberg, also, the manufacture is extensively carried on, and is proportionably greater than in Bavaria. Middling and coarse linens are the goods most usually made, and there is also an exportation of sail-cloth and ticking. Both the spinning and weaving are chiefly carried on in the neighbourhood of the Alps; bleaching is more generally spread over the country. In Münsingen excellent damask is made; and the linens of Ulm have a wide reputation. Considerable quantities of linen are exported from Würtemberg to Bavaria and Switzerland. Ribbons are also manufactured there, and some are exported. Lace is made in Reutlingen and Ehningen, which however does not appear as yet to have found any great demand for exportation. In Thuringia the manufacture is chiefly limited to the districts of Gotha and Weimar; but even there, as well as in the rest of the country, it is confined to the supply of the home demand. The sale for export, and even the home trade, is very unimportant. In Saxony, on the other hand, although the cotton trade has drawn away a number of hands from the linen manufacture, still the latter is very general throughout the country. It is here that the finest qualities of linen and much lace are made. The manufacture is carried on to a considerable extent in both the States of Hesse. In the Electorate it is spread over the whole country; but in the Grand Duchy it is more extensively prosecuted in the pro-

vince of Upper Hesse; still, on the whole, more is exported from the Grand Duchy than from the Electorate.

With respect generally to the linen manufacture of the Prussian Union, it is to be observed that the high duties levied upon German linens in France, Italy, North America, and Russia, have of late years very much lessened the export of linen goods. The competition of English machine-spun yarn, and the great extension of the cotton manufacture, have also tended to occasion this result. M. Dieterici considers that the latter cause is likely to have a very serious effect upon the linen trade, and expresses his opinion that the manufacture can only be maintained by keeping up large stocks in expectation of conjunctures in trade; but this will re-introduce a great dependence of the weavers upon the manufacturers and merchants, and the condition of the trade is already such that only very low wages can be paid to the weavers, who are consequently for the most part in a state of great poverty. Nevertheless, the linen manufacture is so spread over a large part of Germany, and descends so regularly from father to son, particularly as an occasional employment to the agricultural classes, that the number of linen weavers continues to increase, as will be seen from the following statement of the number of looms in Prussia at three different recent periods:—

Years.	In Constant Employment.	In Occasional Employment.
1831 . . .	35,668	216,780
1834 . . .	36,879	220,343
1837 . . .	35,877	246,294

Thus, while the number of looms in constant employment has remained almost stationary, or rather has retrograded between the years 1834 and 1837, that of looms occasionally employed has increased steadily to the extent of about one-seventh, or 13·6 per cent. The proportion of the former, and consequently of those persons who depend upon weaving alone for their subsistence, is only one-eighth of the latter, or of those persons who have recourse to it during their leisure hours, or during periods of slack employment in other trades.

The number of looms in each province of the Prussian empire, at the close of 1837, was as follows:—

Provinces.	In Constant Employment.	In Occasional Employment.
Prussia Proper . . .	789	98,849
Posen	1,225	22,245
Brandenburg . . .	5,644	24,877
Pomerania	2,298	35,326
Silesia	12,347	11,620
Saxony	4,237	13,503
Westphalia	5,431	26,900
Rhenish Provinces . .	3,906	12,974
Total	35,877	246,294

But as the looms occasionally employed are not at work upon an average more than one month annually, their number must be divided by 12, and added to the number constantly employed, in order to arrive at the real extent of the productive power of this manufacture in Prussia. To this calculation is added, in the next statement, the proportion of looms to the population of each province, by which may be seen the comparative prevalence of the manufacture in each.

Provinces.	Number of Looms at work throughout the whole Year.	Number of Looms to 10,000 Inhabitants.
Prussia Proper	9,026	41
Posen	3,079	26
Brandenburg	7,717	44
Pomerania	5,242	52
Silesia	13,315	49
Saxony	5,362	34
Westphalia	7,673	57
Rhenish Provinces	4,987	20
Total	56,401	40

The value of the manufacture is not to be estimated by the number of looms at work, but by the quality of the goods produced. The more that weaving is carried on as an occasional employment the more will it be confined to the production of such goods as can be prepared with simple implements and small skill. In the province of Prussia Proper, where the manufacture is chiefly carried on by occasional employment, the proportion which, for real efficiency, the looms so employed bears to those constantly at work, is as the 12th part of 98,849, or 8,237 to 789, which is about 21 to 2. On the other hand, in Silesia, where the proportion is exactly opposite, the ratio is as 968 to 12,347, or nearly 1 to 13. It is true, that even in the province of Prussia, besides the plain and coarse linens commonly made, some fine and excellent cloth for towels and napkins is produced; but how inconsiderable this branch of the manufacture is in that province compared with the production of fine linen, batist or lawn, and table-linen, in Silesia, may be easily seen from the above proportion of the two kinds of labor.

By far the greater part of the linen manufacture is carried on in the country. There were at end of the year 1837,—

In hamlets and villages,—

Looms occasionally employed, 232,482, which, divided by 12, for the reason above given, will give as the number employed throughout the year	19,373
Looms constantly employed	24,290
	<hr/> 43,663

In towns,—

Looms occasionally employed, 13,812, which, according to the same calculation, may be reckoned at	1,151
Looms constantly employed	11,587
	<hr/> 12,738

Thus almost 5-7ths of the whole linen manufacture is carried on in the country, and even of the looms regularly employed more than 2-3rds are at work in the hamlets and villages. But of the remaining third the principal part are to be found in small towns. The 10 towns in Prussia, which rank highest for the extent of their manufactures (erster Gewerbesteuerklasse), contained only 195 looms constantly employed in this branch, and 100 looms occasionally employed; which, if the last be reckoned as constantly employed, will amount in all to 295 looms, or 1-63rd of the whole number in the towns. Even during the time when the system of taxation had for its object to concentrate manufactures in the towns, weavers of linen had permission to settle in the rural districts.

As the quantity of flax grown in Prussia is not known, the exact extent of the linen manufacture cannot be stated. Dieterici, however, has formed the following estimate of the production in 1831. He assumes that the shirt of a full-grown person contains from four to five Prussian ells of linen, and weighs about a Prussian lb.; and further, that the common day-labourers in Prussia wear out, on an average, two shirts annually. If, on the one hand, children use a less quantity, on the other there are numerous other purposes to which linen is applied, even in the humblest households. The summer clothing of men and boys consists of linen; the women, in the rural districts, wear linen gowns and aprons; table-cloths, bed-furniture, and many other articles of common use are made of the same material. It may, therefore, fairly be estimated, that the average consumption of each individual in Prussia is two Prussian lbs. annually. Upon this supposition the home consumption, in 1831, was 27,986,060 lbs. (English). The excess of exportation of yarn and linen cloths of all kinds, in 1831, after deducting the excess of raw unprepared linen imported, was 11,214,634 lbs.; therefore the exports bore the proportion of 1 to $2\frac{1}{2}$ of the quantities manufactured.

The following table will shew the quantities of linen manufactures imported into, and exported from, the States comprised in the Prussian Commercial Union, in each of the three years ending with 1836. The rates of duty on importation were, and continue to be—

		<i>s.</i>	<i>d.</i>
Upon grey packing-linen and sail-cloth . .	20 s.g. per centner, or 1 10 per cwt.		
„ Raw unfinished linen cloth and ticking	2 doll.	5	7
„ Bleached, dyed, or printed linen cloth and ticking, table-linen, and towel- ling, &c.	11 „	30	8
„ Ribbons, cambric, batist, tape, ho- siery, &c.	22 „	61	4
„ Lace thread	55 „	153	4

There is no duty upon exportation.

Description.	Years.	Import.	Export.	Excess of Export.
		lbs.	lbs.	lbs.
Grey packing-linen and sail-cloth	1834	739,575	3,774,963	3,035,388
	1835	726,826	3,629,882	2,903,056
	1836	969,770	6,013,759	5,043,989
Raw unfinished linen cloth and ticking	1834	663,316	1,777,696	1,114,380
	1835	551,980	2,431,450	1,849,470
	1836	2,277,161	3,354,710	1,077,549
Bleached, dyed, or printed linen cloth and ticking, table-linen, and towel- ling, &c.	1834	96,918	12,007,922	11,911,004
	1835	99,633	12,553,425	12,453,792
	1836	151,102	12,949,597	12,798,495
Ribbons, cambric, batist, tape, hosiery, &c.	1834	10,860	749,255	738,395
	1835	15,582	789,864	774,282
	1836	12,277	1,103,992	1,091,715
Lace thread	1834	2,833	6,020	3,187
	1835	2,479	5,666	3,187
	1836	2,243	6,610	4,367

With respect to grey packing-linen and sail-cloth, the importation is confined to the northern States; the southern States of Bavaria, Saxony, Württemberg, and Thuringia, only imported 70,000 lbs. in 1835. The importation into the Prussian States had fallen off since 1832. The principal exportation is from Westphalia and Brandenburg. In the former province it had risen from 1,090,180 lbs. in 1832 to 1,558,125 lbs. in 1835; and in the latter from 33,289 lbs. in 1832 to 1,361,338 lbs. in 1835. This great increase in Brandenburg consists of manufactures of the kingdom of Saxony sent to Hamburg for shipment, which therefore appear as exports from the above province.

The importation of raw linen cloth and packing was much less in 1834 than it was in 1832, owing principally to the interruption of the linen trade between Silesia and Bohemia, which has been already noticed.* The exportation has nearly doubled since 1832-33; it takes place principally from the southern States, from Württemberg and Bavaria, which is explained by the circumstance of a large quantity of linen cloth being sent to Switzerland to be bleached.

The importation of bleached, dyed, and printed linens, &c. is considerable; but the exportation is very great. This article forms one of the principal branches of export from Prussia and the other States of the Union. Of the total quantities exported in 1835 about 3-5ths were from Brandenburg, but of this only a small portion was the produce of that province; the principal part consisted of the surplus of Silesia, Saxony, and the States in the interior of the Union, which was sent down the Elbe to find a market at Hamburg, where Silesian and Saxon linens form one of the chief objects of trade with America.

The importation of ribbons, cambrics, &c. is small; nearly one-half of the quantities exported is from the Rhenish provinces. The small quantity of lace-thread which is exported is chiefly from the kingdom of Saxony.

Manufacture of Woollens.—This branch of manufacture is much less extensive in Prussia than that of linen, but it is increasing. The number of looms at work were—

	Constantly Employed.	Occasionally Employed.
In 1831 . .	15,360	2,693
1834 . .	15,075	3,549
1837 . .	16,937	4,085

It will be seen that the ratio of increase in the looms occasionally employed has been much greater and more steady than in those constantly employed; being 51 per cent. during the six years in the first, and only 10 per cent. in the latter class. The number at work in each province were as follows, in 1837:—

	Constantly Employed.	Occasionally Employed.
Prussia Proper . .	557	2,185
Posen	997	129
Brandenburg . .	4,621	148
Pomerania . . .	528	406
Silesia	2,687	435
Saxony	2,506	354
Westphalia . . .	584	53
Rhenish Provinces .	4,457	375
Total . .	16,937	4,085

* See page 148.

Prussia Proper again contains the greatest number of looms in occasional employment, amounting to one-half of the total number so employed; and of these, 2,092 are in the rural districts, and only 93 in towns. The cause of this kind of labor being so general in this province is, that agriculture is still universally prevalent in it, and therefore the great mass of the people are obliged to husband their means, and to manufacture their own clothing. The goods generally made in this manner are a strong woollen fabric, looking like cloth, called "Wand," mostly grey, and made of black and white wool mixed, which is used for upper garments and cloaks; and the dark woollen cloths, made with a mixture of linen yarn dyed of numerous different colours, for women's gowns. Formerly it was contrary to law to dye the cloth called Wand, or to weave it in striped patterns, in order that the manufacturers in the towns might have a monopoly; but this prohibition has become obsolete. As the condition of the population improves this kind of employment will cease, since it can only be continued while there is an inadequate demand for labor in other branches of industry. In the other provinces the number of looms in this class is very small, and are found almost entirely in the rural districts; out of 1,900 only 199 are in towns. The goods which they produce are coarse and light woollen and half-woollen stuffs, such as frieze, flannel, &c., which are woven during the winter by peasants who have other occupations during the fine season of the year. In Berlin many masons' laborers are employed during the winter in the manufacture of serge. Of the looms constantly employed, one-quarter are found in Brandenburg, and another quarter in the Rhenish provinces. Silesia and Saxony each contain more than an eighth, and the rest are distributed over the other provinces. The principal seats of the manufacture in Saxony are Zeitz, Naumburg, Burg, Magdeburg, and Langensalza; in Brandenburg, Luckenwalde, Cottbus, Fürstenwalde, and Finsterwalde; and in the Rhenish provinces, Eupen, Montjoie, and Aix-la-Chapelle, where the finest cloths are made. Prussia and the other States of the Commercial Union export a large quantity of woollen manufactures. The official documents do not afford the means of distinguishing the different kinds of goods, and therefore the extent and value of the trade can only be estimated by the gross weight of the exports. The duty on importation is the same upon all descriptions of woollens, with the exception of carpets, and amounts to 30 dollars per centner, which is equal to 83*s.* 9*d.* per cwt., or 9*d.* per lb. The duty on carpets is exactly one-third less, 20 dollars per centner, or 6*d.* per lb. There is no duty on exportation. The following is the amount of trade of the whole Union in woollens during each of the three years ending with 1836:—

		Imports. lbs.	Exports. lbs.	Excess of Exports. lbs.
Woollen cloths, stuffs, and hosiery . . .	1834	1,393,329	6,040,910	4,647,580
	1835	1,620,337	7,112,557	5,492,219
	1836	1,450,465	7,948,814	6,498,349
Carpets of sheep's and other wool . . .	1834	19,596	56,781	37,185
	1835	20,304	67,405	47,101
	1836	25,144	72,600	47,455

From this statement it appears that the excess of exportation of woollen goods, exclusive of carpets, has increased 18 per cent. in each of

the last two years above quoted. M. Dieterici estimates the weight of a piece of woollen cloth at from 20 to 25 lbs. Prussian, which would average 24 lbs. English; therefore the total exportation of Prussian woollens represented in cloth would amount to 331,200 pieces.

The quantities exported from each State of the Union were as follows in 1835 :—

	Woollen Cloths, Stuffs, and Hosiery. lbs.	Carpets of Sheep's and other Wool. lbs.
Prussia Proper . . .	57,843	590
West Prussia . . .	3,069	..
Posen	9,079	236
Brandenburg . . .	818,432	2,006
Pomerania	25,970	472
Silesia	189,114	2,124
Saxony	1,832,117	27,623
Westphalia	635,810	472
Rhenish Provinces . .	840,507	15,582
Total	4,411,955	49,108
Kingdom of Bavaria . .	1,089,354	13,339
„ Saxony	193,127	472
„ Württemberg . . .	683,974	1,888
Electorate of Hesse . .	245,659	1,652
Grand Duchy of Hesse .	488,485	944
Thüringia . . . . .	..	..
Total	7,112,557	67,405

Thus of the whole quantity Prussia exported 62 per cent., Bavaria 15 per cent., and Württemberg $9\frac{1}{2}$ per cent. Half the remaining quantity was exported from the Grand Duchy of Hesse. Among the provinces of Prussia, Saxony exported by far the greatest quantity, amounting to 41 per cent. of the total exports from that country, the Rhenish provinces exported 19 per cent., Brandenburg nearly the same, Westphalia $14\frac{1}{2}$ per cent., and Silesia 4 per cent. The trade of the other provinces was very trifling; their importation having ceased when the importation of Prussian cloths into Russia was prohibited.

M. Dieterici gives the following estimate of the consumption of woollens in Prussia in the year 1834. The quantities of raw wool consumed in that country, in 1834, was estimated (*see* p. 144) at 24,169,860 lbs. This divided among a population of 13,509,927 individuals would average 1·793 lb. to each person. It is calculated that a stone of wool, containing $23\frac{1}{2}$ lbs. will, on an average, produce a piece of cloth of $23\frac{1}{2}$ yards in length. And, according to this proportion, 1·793 lb. would give 1·78 yard to each person. But, from this, deduction must be made of the excess of manufactured goods exported beyond the quantities imported, which, proceeding upon the same method of calculation, would amount to 0·20 yard to each person, leaving the actual estimated consumption 1·58 yard. In 1831 it was computed at 1·56 yard. Adopting the same formula, M. Dieterici estimated the consumption of the United Kingdom in 1830 at 4·2 yards to each person, which is nearly three times as great as in Prussia.

On comparing the number of looms with the exports of each province, it appears that there is no correspondence whatever between the extent of manufacture and that of exportation. The official data

do not afford the means of accounting for this fact; but it is well worthy of notice. While Saxony, with 2,506 looms, exported 1,832,117 lbs. of woollens, Brandenburg, with 4,621, or nearly double the number of looms, and being the outlet to the port of Hamburg, exported only 818,432 lbs., or half the quantity exported from Saxony. Similar discrepancies are observable in the other provinces, as will be seen in the following table:—

Provinces.	Looms in Constant Employment.* No.	Exports of Woollen Cloths, Stuffs, and Hosiery. lbs.
Prussia	557	60,912
Posen	997	9,079
Brandenburg	4,621	818,432
Pomerania	528	25,970
Silesia	2,687	189,114
Saxony	2,506	1,832,117
Westphalia	584	635,810
Rhenish Provinces	4,457	840,507
Total	16,937	4,411,955

Manufacture of Cottons.—Flax and wool are grown in all parts of the Prussian dominions, but cotton is entirely a foreign production: hence the latter was but little consumed, and was considered rather as an article of taste and luxury until the introduction of the spinning-machine, which reduced the price of cotton yarn much below that of linen yarn of equal fineness, and until the increased cultivation of raw cotton in consequence of the demand for it in Europe caused its price to fall much below that of sheep's wool. When, however, this took place, the cotton manufacture took root rapidly, and soon began to press upon those of linen and wool, especially upon the finer qualities of the former, and upon the coarser stuffs of the latter material, such as serge, tammy, barracan, &c., which were in common use. In those parts of the country in which agriculture is still predominant, and in which the lower classes manufacture the stuff for their own clothing from the materials which they themselves cultivate, the use of cotton manufactures continues for the most part confined to the middle and higher classes; and the preference which is every where shewn to linen and woollen materials for certain parts of the dress is so great, that it is very unlikely that for those purposes they will ever be superseded by cotton. However, the consumption of cotton goods increased to so great an extent that it became advisable, as a matter of state economy, to encourage the application of labor to this manufacture, first for home consumption, and then for exportation; hence the fabrication of cotton has become established on an extensive scale in some parts of the Prussian dominions, while in others it remains very small, and for the most part of no importance.

In general, cotton-weaving is carried on only by persons who make it their sole occupation throughout the year, and depend upon it for their livelihood; still some plain and coarse cotton goods are manufactured, particularly in the rural districts, during the winter, by families who are otherwise employed during the summer. The official documents

* The looms in occasional employment are not noticed, as their number in each province is so small.

Provinces.	Districts. (Regierungsbezirken.)	Number of Looms in each District.		Number of Looms in each Province.			
		1825	1834	1825	1834	1837	
						In Constant Employment.	In Occasional Employment.
Prussia Proper	Königsberg	9	1	15	12	46	33
	Gumbinnen	1	1				
	Dantzic	10	8				
	Marienwerder	2	3				
Posen	Posen	6	12	6	12	25	..
	Bromberg . . . . .	..	..		
	Berlin, City of	3,134	2,861				
Brandenburg	Potsdam	1,756	1,923	4,963	5,199	4,893	250
	Frankfurt	78	415				
	Stettin . . . . .	..	7				
Pomerania	Köslin . . . . .	..	1	..	8	30	17
	Stralsund . . . . .	..	..		
	Breslau	5,179	9,648				
Silesia	Oppeln	35	276	5,884	12,425	17,739	2,581
	Liegnitz	670	2,501				
	Magdeburg	195	229				
Saxony	Merseburg	808	1,155	1,747	2,893	3,775	780
	Erfurt	744	1,509				
	Münster	733	904				
Westphalia	Minden	32	192	1,696	2,118	2,847	703
	Arnsberg	931	1,022				
	Cologne	341	293				
Rhenish Pro- vinces	Düsseldorf.	7,290	8,398	7,823	9,092	9,964	1,325
	Coblenz	63	89				
	Trier	22	24				
	Aix-la-Chapelle	107	238				
Total . . . . .		..	..	..	..	39,324	5,689
Add for Looms in Occasional Employment . . . . .		..	..	..	..	474	
Total				22,139	31,759	39,798	

If the actual number of looms in each district at the three several periods be compared, the following will be the results:—Prussia Proper, Posen, and Pomerania, have no cotton manufacture at all worthy of notice; nor does it appear that any is likely to spring up in those provinces. In Brandenburg, although there was a trifling increase in 1834, the number of looms was actually less in 1837 than in 1825, exhibiting therefore not only a stationary but a declining trade. In Silesia, on the contrary, the number of looms had doubled in 1834, and trebled in 1837. In Saxony they had more than doubled between 1825 and 1837; in Westphalia they had increased in the same period by two-thirds, while in the Rhenish provinces they had only increased by about one-fourth. This, however, will be shewn more exactly in the following statement of the total per-centage increase during each period:—

Provinces.	Per-centage Increase.		
	In 9 Years, from 1825 to 1834.	In 3 Years, from 1834 to 1837.	In 12 Years, from 1825 to 1837.
Brandenburg . . .	4.6	..	..
Silesia	111.1	44.5	205.1
Saxony	65.6	32.7	119.8
Westphalia . . .	24.8	37.1	71.3
Rhenish Provinces .	16.2	10.8	28.7
Total of Prussia .	43.4	25.3	79.7

In Brandenburg the number had decreased in the three years 5.3 per cent., and in the whole period nearly 1 per cent.

As, however, the above proportions refer to three unequal periods of years, it will be desirable to state the average *annual* rate of increase in each province, which is accordingly done in the following table:—

Provinces.	Average Annual Rate of Increase.		
	From 1825 to 1834.	From 1834 to 1837.	From 1825 to 1837.
Brandenburg . . .	0.5	Decrease.	Decrease.
Silesia	12.3	14.8	17.1
Saxony	7.3	10.9	10.
Westphalia . . .	2.7	12.3	6.
Rhenish Provinces .	1.8	3.6	2.4
Total	4.8	8.4	6.6

From this it appears that the increase was greater in all the provinces during the years from 1834 to 1837 than during the preceding period, and that in Westphalia particularly a great impulse was given to the manufacture in those years. It results further that the increase during the twelve years has been greatest in Silesia, namely, 17 per cent. annually; next in Saxony, where it was 10 per cent.; then in Westphalia, 6 per cent.; and, lastly, in the Rhenish provinces not quite 2½ per cent. In Brandenburg, as has been already observed, the manufacture had decreased.

A comparison of the proportion which each province bore to the whole State, in each year, shews that Brandenburg fell from a fifth in 1825 to an eighth in 1837, and the Rhenish provinces from a third to a fourth; while Saxony and Westphalia remained stationary, and Silesia rose from a quarter to nearly one-half in the same period.

The following are the exact proportions of each province to the whole State in the several years:—

	1825.	1834.	1837.
Brandenburg	22·4	16·4	12·3
Silesia	26·6	39·1	45·1
Saxony	7·9	9·1	9·7
Westphalia	7·6	6·6	7·3
Rhenish Provinces	35·3	28·6	25·3
Other Provinces	0·2	0·2	0·3
Total	100·	100·	100·

The manufacture of cotton is chiefly, as in England, confined to certain districts, even in those provinces in which it is the most extensively prosecuted. The principal localities are the mountains of Silesia, certain parts of the district of Düsseldorf, a portion of Thuringia, and the city and neighbourhood of Berlin. This is more particularly shewn in the next statement:—

Localities.	Number of Looms.	
	In Constant Employment.	In Occasional Employment.
Silesia—In the circles (Kreisen) of Lauban, Löwenberg, Hirschberg, Landshut, Waldenburg, Schweidnitz, Reichenbach, Frankenstein, Glatz, Habelschwerd, and Leobschütz	16,988	2,513
Rhenish Provinces—In the district of Düsseldorf, with the exception of the two northern circles of Rees and Cleve, and including the circle of Hagen, in the district of Arnsberg (Westphalia)	9,291	1,041
Saxony—In the district of Erfurt, with the exception of the two circles of Langensalza and Weissensee, and including the circle of Zeitz, in the district of Merseburg	2,763	743
Brandenburg—In the city of Berlin, and the circles of Niederbarnim, Teltow, Jüterbogk-Luckenwalde, Zauch-Belzig, and the city of Potsdam	4,362	248
In addition to the above four chief seats of the manufacture—		
Westphalia contains, in the circle of Siegen, within the district of Arnsberg	724	35
In the north-western part of the district of Münster, in the circles of Ahaus, Borken, and Steinfurt	828	457
In the circle of Waarendorf, within the same district	366	—
In the circle of Höxter, within the district of Minden	401	19
Total	35,723	5,056

Nine-tenths, therefore, of the whole cotton manufacture are carried on in the above districts, containing 2,158 square miles, or about one-eleventh part of the area of the Prussian dominions (23,208 square miles), and the remainder is scattered over the rest of the country.

As the whole of the raw material of this manufacture must pass through the Custom House, excepting perhaps some of the finer kinds of twist which is smuggled into the country, it is possible to estimate its precise extent in a manner which cannot be done with regard to flax and wool. Dieterici computes the quantity of cotton converted into twist which remained for consumption in the Prussian dominions, in 1831, at 17,481,950 lbs., which quantity, allowing 25 per cent. for the loss in manufacturing, would yield 13,111,463 lbs. of cotton goods. In

order to estimate the home consumption, there must be deducted from that amount the excess of goods exported beyond the imports, which was 740,400 lbs.; there remained, therefore, 12,371,063 lbs. to be divided among 13,200,460 inhabitants, which would average 0·93 lb. to each person, or 4·65 lbs. to a family of five persons. From a similar calculation for the average of the years 1834 and 1835, when the present Commercial Union was in operation, the total quantity of cotton reckoned as twist, retained in the whole Union, was 37,411,800 lbs. If from this be deducted a fourth, or 9,352,950 lbs., for waste in the process of manufacture, the amount of goods made will be 28,058,850 lbs.; the excess of exportation was 7,605,528 lbs.; the consumption, therefore, was 20,453,322 lbs., which, being divided among a population of 23,635,065, gives an average of 0·86 lb. to each person, or 4·30 to a family of five persons, which is $7\frac{1}{2}$ per cent. less than the consumption of the Prussian States alone in 1831. At that time Prussia imported a considerable quantity of cotton goods, and her exports only exceeded her imports by one-third, as will be seen in the next table. Upon the accession of the kingdoms of Saxony, Bavaria, and Würtemberg, to the Union in 1834, the export of cottons immediately trebled, while the imports remained stationary. It is evident, therefore, that unless the import of foreign cottons into Prussia immediately fell off, and almost ceased at that time, there had not previously been any such importation into the other States of the Union. On the other hand, as their home consumption was less than that of Prussia, and their export was greater in proportion to their population, it would appear that the development of their manufacture appears to have been caused principally by an export trade.

The following table exhibits the imports and exports of cotton goods in the Prussian dominions alone, upon an average of the three years, 1829 to 1831; of the Prusso-Hessian league, consisting of Prussia and the two States of Hesse, in the years 1832 and 1833; and of the whole Union, in the three following years. The duty on importation was 55 dollars per centner, or 1s. 4½d. per lb., previous to 1834; it is now 50 dollars per centner, or 1s. 3d. per lb.

	Imports. lbs.	Exports. lbs.	Excess of Exports. lbs.
Average of 1829-31	1,434,292	2,174,694	740,402
„ 1832	1,671,452	3,055,574	1,384,122
„ 1833	1,529,085	2,753,369	1,224,284
„ 1834	1,598,380	8,848,346	7,249,966
„ 1835	1,630,017	9,590,873	7,960,856
„ 1836	1,594,484	9,948,324	8,353,840

Thus throughout the whole period the importations have remained nearly stationary. The exports, however, increased to some extent in 1832 and 1833, which was principally owing to the accession of the Grand Duchy of Hesse to the Union, as the exports from that State amounted to about 354,000 lbs. in each year; but an increased exportation took place at the same time from the Prussian dominions, particularly from the Rhenish provinces. In 1834, however, the exports rose in the proportion of 3 to 1 compared with the average of 1832-33, and of 4 to 1 compared with 1829-31. This was chiefly caused by the accession of the kingdom of Saxony; but some of the other States con-

tributed to swell the amount. A considerable manufacture of cotton goods is carried on in Bavaria, about Augsburg and Hof, and in other parts of the kingdom; in Würtemberg, about Biberach and Tüttlingen, adjoining the manufacturing districts of Switzerland; but to a much greater extent in Saxony, chiefly in Chemnitz, Plauen, and the surrounding districts, where the use of the loom is almost universal, and where the skill, extraordinary industry, and rare contentment of the artisans enable them to produce cotton goods of all kinds, which are so good and so cheap, that they compete successfully with the manufactures of Great Britain, and find an extensive sale in foreign countries.

The export of cottons from each province, and the influence which the accession of the kingdoms of Saxony, Bavaria, &c., had upon the commerce of the Union, will be seen in the following table:—

Provinces.	Exports of Cotton Manufactures in the Years	
	1832.	1835.
	lbs.	lbs.
Prussia—East Prussia	445,162	220,515
West Prussia	157,122	46,629
Posen	97,272	76,967
Brandenburg	153,109	1,234,672
Pomerania	2,242	4,013
Silesia	303,847	336,439
Saxony	354,264	2,976,363
Westphalia	521,893	579,737
Rhenish Provinces	658,008	1,040,954
Total	2,692,928	6,516,292
Kingdom of Bavaria . . . .	..	280,956
„ Saxony . . . .	..	2,198,658
„ Würtemberg . . . .	..	252,742
Electorate of Hesse	1,062	171,406
Grand Duchy of Hesse	361,583	170,816
Thüringia . . . .	..	..
Total	3,055,574	9,590,873

If the quantities exported from the several provinces be compared with the number of looms employed in each, it will be found that in this, as in the woollen manufacture, there is no relation between the amount of fabrication and that of exportation. In 1832 the exports from Prussia Proper exceeded 600,000 lbs., while there were only 12 looms in the province. In 1835, Silesia, with 17,954 looms, exported 336,439 lbs.; while Saxony, with only 3,840 looms, exported 2,976,363 lbs. The great increase of the exports from Brandenburg, Silesia, and the Rhenish provinces in the year 1835, is worthy of notice. That from the former province is in some measure owing to the increase of the manufacture in Silesia, although a rapid progress has taken place within the province itself, particularly at Berlin. The official documents do not furnish any information as to the countries to which the merchandise exported from the Union is shipped, and therefore the particular trade of each portion of it cannot be distinguished.

Silk Manufacture.—The principal seats of the manufacture of Silk in Prussia are the Rhenish Provinces and Brandenburg, particularly the city of Berlin, in which districts it was first established and encouraged by Frederic II. Its increase has been very rapid since 1831,

as will be seen from the following statement of the number of looms employed in the fabrication of silk and half-silk goods in each of the years 1831, 1834, and 1837 :—

	No. of Looms.	Increase per Cent.
1831 . . .	8,956	..
1834 . . .	12,044	34·
1837 . . .	14,111	17·

Thus the increase between 1831 and 1834 was 34 per cent., and, between the latter year and 1837, 17 per cent.; shewing the existence of a much greater stimulus to the manufacture during the first period. The total increase in six years was 57·5 per cent. Four-fifths of these looms are situated in the district of Düsseldorf, and one-sixth in Brandenburg; so that there remain but few in the other parts of Prussia. The exact number in each district at each of the above periods was as follows:—

Provinces.	Districts.	Looms at Work.		
		1831	1834	1837
Rhenish Provinces	Düsseldorf . .	6,742	9,031	11,137
	Cologne . .	344	409	315
	Aix-la-Chapelle	31	43	23
Westphalia	Arnsberg . .	101	129	116
	Berlin, City of .	1,254	1,715	1,575
Brandenburg	Potsdam . .	107	196	740
	Frankfurt . .	122	264	
	Erfurt . .	141	109	122
Saxony	Magdeburg . .	12	9	5
	Merseburg . .	11	9	2
Silesia	Liegnitz . .	59	96	76
	Stettin . .	32	34	..
Pomerania				
	Total . .	8,956	12,044	14,111

In Düsseldorf there are two central points round which this manufacture is chiefly carried on, Elberfeld and Krefeld. The former district contains about three-fifths, and the latter two-fifths, of the whole number of looms, viz. —

	Circles.	
In and about Elberfeld .	{ Elberfeld . . .	5,982
	{ Solingen . . .	409
	{ Lennep . . .	257
In and about Krefeld .	{ Krefeld . . .	2,428
	{ Kempen . . .	1,099
	{ Gladbach . . .	754
In other Parts . . .	{ Geldern . . .	92
	{ Düsseldorf . .	89
	{ Other Circles .	27

The official documents afford the means of comparing the increase in Krefeld since the year 1834; there were then, in and about that locality, 3,620 looms in 28 factories, of which number about 1,600 were common and jacquard looms employed in the manufacture of silk and half-silk piece goods and handkerchiefs, 1,280 in that of velvet, and 740 in that of plush; besides 630 looms for weaving velvet ribbons, and 280 for weaving common ribbons, of which branch of the manufacture a full account will presently be given.

In the district of Cologne, according to the returns of 1837, silk-weaving was entirely confined to the town and circle of Cologne, in which there were 155 looms, and the adjoining circle of Mühlheim, which contained 159 looms; there was only one other loom in the remaining part of the district.

The chief seat of the manufacture in Brandenburg is—

	Looms.
The City of Berlin, containing	1,575
To which should be added the adjoining districts—	
Of the Circle of Niederbarnim, in and about Bernau, containing	31
Of the Circle of Teltow, Köpenick	93
Of the Town of Potsdam	75
Of the Town of Brandenburg	190
And of the District of Jüterbogk-Luckenwalde	1
Making a Total of	1,965

Or six-sevenths of the whole number at work in Brandenburg. Of the remainder, 50 are in the town of Züllichau, and 300 in the low lands of the adjoining circle of Sternberg.

Of the 76 looms in Silesia, 70 are in the town of Schmiedeberg, and 6 in Greiffenberg; and of the 129 in Saxony, 122 are in the town of Langensalza, within the district of Erfurt, 2 are in Zeitz, and 5 in Magdeburg.

In the other States of the Prussian Union the silk manufacture is inconsiderable; there are some looms in Bavaria, Würtemberg, Saxony, and Hesse, but the exportation of silk goods from these countries is very small. The following is a statement of the imports and exports of silk and mixed-silk manufactured goods from and into the Prussian Commercial Union, in each year from 1834 to 1836 :—

	Silk Goods.			Mixed-Silk Goods.		
	Imports.	Exports.	Excess of Exports.	Imports.	Exports.	Excess of Exports.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1834	254,985	559,079	304,094	106,950	320,263	213,316
1835	201,981	762,004	560,023	106,596	371,971	265,375
1836	225,581	847,826	622,245	121,236	404,435	283,199

The excess of exports from Prussia and the States of Hesse, previous to 1834, was about the same; but the proportion of imports and exports was different: the importation of silk goods was less, and the exportation of both kinds, particularly of mixed-silk goods, was greater. During the three years from 1834 to 1836 the total importation remained stationary; but the exportation of silk goods increased 51 per cent., and that of mixed-silk goods 26 per cent. The duty on the importation of the former is 110 dollars per centner, or 2*s.* 9*d.* per lb., which M. Dieterici estimates at about 5 per cent. on the value of the goods, reckoning a centner to be worth 2,000 dollars, or 50*s.* per lb. The import duty on mixed-silk goods is 55 dollars per centner, half of the above amount, which is therefore equal to 1*s.* 4½*d.* per lb., and this is estimated at 9 per cent. *ad valorem*, taking the value of a centner at 600 dollars, or of a lb. at 15*s.*

Adopting the preceding estimates, the total value of silk and mixed-silk manufactures exported from the Prussian Union in 1836 was 2,422,892*l.*, of which 2,119,500*l.*, or more than seven-eighths consisted of silk, and 303,327*l.* of mixed-silk goods. The imports in the same year amounted to 655,000*l.* A comparison with the trade of the United Kingdom in 1837-8 gives the following results: the quantity of silk goods, the manufacture of Europe, imported into the United Kingdom, on the average of those two years, was 218,185 lbs., which, estimated at 50*s.*, supposing the whole to be of silk alone, would be worth 545,462*l.* To this, however, must be added the value of 110,000 pieces of bandannas, and other silk handkerchiefs from India, entered for home consumption in the same period. Including these, the total value of imports of silk manufactures into the United Kingdom in 1837-8 was less than into the Prussian Union in 1836, at which time the importation of those countries was annually increasing. On the other hand, the value of silk manufactures exported from the United Kingdom in 1837-8 averaged 640,000*l.*, which is only a quarter of that from the Prussian Union in 1836.

Almost the whole of the silk manufactures exported from the Union were the produce of Prussia, and went from that country; and, on the other hand, she received only one-third of the quantities imported. This is shewn more exactly in the following statement relating to the year 1835:—

	Silk Goods.		Mixed-Silk Goods.	
	Imported.	Exported.	Increase.	Exports.
	lbs.	lbs.	lbs.	lbs.
Prussia . . .	70,542	729,826	37,782	316,397
Other States . .	131,438	32,178	68,814	25,574

Of the several provinces of Prussia the Rhenish provinces exported by far the greatest quantity, amounting to 58 per cent. of the whole; while Westphalia exported 26 per cent., and Brandenburg about 9 per cent. Of the imports Brandenburg received 60 per cent. Hence it appears, taking into consideration the respective number of looms in the Rhenish provinces and Brandenburg, with the comparative imports and exports of the two provinces, that the internal consumption of silk goods in the latter is greater than in the former, or that the goods manufactured in the latter are more extensively consumed within the Union than those of the latter. The comparison stands thus:—

	No. of Looms.	Imports. lbs.	Exports. lbs.
Brandenburg	2,315	64,717	95,171
Rhenish Provinces and Westphalia . .	11,491	29,809	883,260

Westphalia is here included with the Rhenish provinces, because it immediately adjoins those districts of the latter in which the silk manufacture is carried on, and because, having scarcely any manufacture of its own, the goods exported from it are the production of the Rhenish provinces.

As the quantities of raw and thrown silk imported into Prussia since 1831 are not stated in the official documents, it is impossible to say what quantity of silk manufactures are retained for the home consumption of Prussia and the other States of the Commercial Union; but from the smallness of the importation of raw silk in 1831, when the quantity of manufactured goods exported amounted to more than one-half of the exports in 1836, it is probable that the consumption of these countries is small, and very much below that of the United Kingdom.

Manufacture of Ribbons.—The preceding statements of the number of looms at work in Prussia refer only to those employed in the manufacture of piece-goods, exclusive of those employed in the fabrication of ribbons and hosiery. The following particulars will supply the same information with respect to these two branches of industry.

Ribbons are made of all the four materials used in weaving, but the Prussian tables do not distinguish the number of looms in which each kind is wrought, nor is it indeed probable that they could be so distinguished. All the provinces of Prussia partake in this manufacture, although it is very limited in some. There were, at the close of 1837,—

In the two westerly Provinces of Westphalia and the Rhine	3,245
Saxony and Silesia	954
Brandenburg	119
Pomerania, Prussia Proper, and Posen	22
Total	4,340

It will be seen, that more than three-fourths of the whole number of looms are established in the western provinces, particularly in the districts of Düsseldorf and Arnsberg. In the former, Elberfeld and Krefeld are the central points of this manufacture, as well as of that of silk goods. The number of looms in 1837,—

In the Circle of Elberfeld, was	970	} 1,193
„ „ Lennep „	273	
„ „ Krefeld „	196	} 1,089
„ „ Kempen „	671	
„ „ Gladbach „	222	} 26
In the Circles of Geldern, Cleve, Düsseldorf, and Solingen		

Total Number in the District of Düsseldorf 2,308

In the district of Cologne, the capital and neighbourhood contained 60, and the circle of Gummersbach 10 looms; in that of Aix-la-Chapelle there were 39 looms within the circles of Erkelenz and Heinsberg. The district of Arnsberg contained 793 looms, of which 791 were in the circle of Hagen, and two in the adjoining circle of Bochum. The district of Münster contained 30, and that of Coblenz only 5 looms: the districts of Trier and Minden did not contain any.

Next to these two provinces the manufacture is most extended in Saxony and Silesia. The localities in which it is chiefly carried on are,—

The Town of Erfurt	Looms. 433
„ „ Magdeburg	230
In the contiguous Circles of Lauban, Löwenberg, and Hirschberg, within the District of Liegnitz	} 85
In the Circle of Reichenbach	
Scattered over the remainder of Saxony	24
In the Province of Silesia	68
	114

Total Number in Saxony and Silesia 954

The province of Brandenburg contained 119 looms, of which number 98 were in the city of Berlin. In Pomerania there were 4; in Prussia Proper, 13; and in Posen, 5. The official documents afford no information as to the quantities of ribbons manufactured or exported.

Manufacture of Hosiery.—This branch of industry is, like that of ribbons and silk, very limited in the eastern provinces of Prussia; it is most extended in the Rhenish provinces; but it is much less confined to particular localities than the manufactures above mentioned. The following was the number of looms in each province at the close of 1837:—

	No. of Looms.	Per-centage Proportion of whole Number.
Rhenish Provinces	892	42·1
Saxony	351	16·6
Brandenburg	306	14·4
Westphalia	263	12·4
Silesia	249	11·8
Prussia Proper	38	2·7
Pomerania	14	
Posen	5	
Total	2,118	100·

Of the 892 looms in the Rhenish provinces nearly one half were in the district of Düsseldorf: they were distributed over the province as follows:—

Districts.	Circles.	No. of Looms.
Düsseldorf	{ Elberfeld, Solingen, Lennep	156
	{ Krefeld and Kempen	137
	{ Other Circles	118
Cologne	{ Gummersbach	183
	{ City of Bonn	30
	{ Other parts	36
Coblenz	Chiefly in the Circles of Simmern and Wetzlar, but much scattered	161
Trier and Aix-la-Chapelle		68
Total		892

In Westphalia there are only two localities in which this manufacture is carried on to any extent, viz., the south-westerly part of the district of Arnsberg and the circle of Recklingshausen. The number of looms was,—

In Hagen, Altena, and Siegen (Arnsberg)	64
In the Circle of Recklingshausen	39
Scattered over the remainder of the Province	160
	263

In the province of Saxony the number of looms was as follows:—

In the Towns of Magdeburg	118
„ Halle	47
„ Naum burg	20
„ Erfurt	48
„ Gefell	27
Other parts	91
Total	351

In Silesia the manufacture was chiefly confined to the circles of

Frankenstein, Neisse, and Habelschwerdt, in which there were 63 looms; in Liebenthal, in the circle of Löwenberg, 19; in other parts of the province, 167: total 249 looms.

In Brandenburg, Berlin contained more than half the looms within the province, viz.—

Berlin	176
Potsdam	16
Templin	31
The remainder of the Province . .	83
Total	306

The manufacture of stockings has of late years suffered greatly by the change in the use of that article of dress among the higher classes. Knitting by hand, which is carried on among the laboring population as an occasional employment, and among the wealthier classes as an amusement, continues to supply a great part of the hosiery required at so cheap a rate that no machinery can compete with it. There remain, therefore, on the one hand, only silken and very fine cotton hose, which require too much labor to be made by hand, and, on the other, the thick fulled woollen stockings, of bright colours, which are generally worn in some provinces by the lower classes, to afford occupation to their stocking manufacture. A new fabrication, however, has recently sprung up, to which Berlin has given a name, viz., the manufacture of cotton gloves; the use of which, as well as of silken gloves and mitts, has become very general in Great Britain and other European countries. The official documents furnish no particulars with respect to the extent of this branch of the hosiery trade.

Cloth Shearing, Dyeing, and Cotton Printing.—There remain only to be noticed some of those processes connected with the manufactures already described which are of a sufficient extent to be placed in a class by themselves. The first is the shearing and finishing of woollen cloths, which furnished employment at the close of 1837 to 3,480 persons. The number of individuals following this occupation in the several parts of Prussia by no means corresponds with the extent of weaving in each. In the large cloth manufactories these processes are carried on in the same establishment as the weaving, and the goods are finished and made fit for market without passing through the hands of a middle manufacturer. But many extensive commercial houses purchase large quantities of unfinished cloths at the place of manufacture, and convey them elsewhere for the purpose of being dyed, sheared, and fulled, under their own inspection.

No information has been collected respecting the bleaching of linen and cotton goods, or the establishments for dyeing raw silk. The number of persons employed in other kinds of dyeing amounted, in 1837, to 7,239, of whom 3,387 were masters, and 3,852 apprentices. This number includes only the operatives skilled in this process, and not the day-laborers who are employed in mere manual labor connected with it. Of the 7,239 dyers 2,281 were in the Rhenish provinces, 939 in Westphalia, 907 in Brandenburg, 848 in Prussia Proper, 825 in Saxony, 745 in Silesia, 376 in Pomerania, and 318 in Posen.

It is only in large establishments that the printing of calicoes and

other cloths can be carried to such a degree of perfection as is requisite in order to compete with foreign productions in beauty and cheapness. It appears that this branch of manufacture is carried on to a greater extent in Berlin, Eilenburg, and Breslau, than in any other part of Prussia. The number of persons to whom it afforded occupation in the year 1837 was as follows:—

	Masters.	Apprentices.	Total.
In Berlin	21	1,064	1,085
Eilenburg	3	773	776
Breslau	15	690	705
Elberfeld and Barmen	17	262	279
Cologne and Deutz	13	111	124
<hr/>			
Total in the above five Towns .	69	2,900	2,969
In the rest of Prussia	902	1,302	2,204
<hr/>			
Total	971	4,202	5,173

It will be seen from this statement that cotton-printing is carried on upon a very different scale in different parts of Prussia. In the five towns above specified the average number of hands in each printing establishment is 42, while in Eilenburg it is 253. In the remainder of the country, however, there are not quite three hands to two establishments, so that in a great proportion of instances it must be carried on by individuals, and in none can there be any considerable number of hands employed under one roof.

It is surprising that this manufacture has so long been able to continue upon its present footing, and to maintain itself against the advantages which printing with rollers has over block-printing. It is very evident that in weaving, and in all branches of manufacture connected with it, every step in improvement and prosperity leads to a system of conducting business upon a larger scale; whilst manufacturing by hand must sink lower and lower until it is confined to the supply of the weaver's own wants. It will, therefore, be a source of great national advantage to Prussia when well-made machines shall be generally substituted for the wretched hand-loom at present in use, and her population shall be released from a profitless, disheartening, and oppressive labor: the change is in progress, and the manufactures of Great Britain already begin to feel its consequences, and to suffer in foreign markets from the competition which the yet infant manufactures of Prussia are able to maintain against the combined advantages of British skill, capital, and enterprise.

Having examined the several branches of manufacture separately, in order to shew the progress and condition of each, it will now be interesting to present at one view the extent which each has attained in the several provinces of Prussia. This is accordingly done in the following Table, marked (A), which shews the number of looms and spindles, as far as the same can be distinguished, in each province, at the close of the year 1837; the columns therein, marked *a* and *b*, contain respectively the number of looms in constant and in occasional employment. As this statement would be imperfect for the purposes of comparison without information respecting the amount of population in each province, the Tables marked (B) and (C) have been added; the first of which contains the area, the density, and rate of increase of

the population, and the proportion which the inhabitants of towns bear to those of the rural districts; and the latter exhibits the proportion which the number of looms bears to the population.

TABLE (A).

PROVINCES.	Linen Manufacture. Number of Looms.		Woollen Manufacture.		
	a	b	Number of Spindles.	Number of Looms.	
				a	b
Prussia Proper . .	789	98,849	3,550	557	2,185
Posen	1,225	22,245	35,965	997	129
Brandenburg . .	5,644	24,877	128,867	4,621	148
Pomerania . . .	2,298	35,326	13,912	528	406
Silesia	12,347	11,620	52,609	2,687	435
Saxony	4,237	13,503	52,398	2,506	354
Westphalia . . .	5,431	26,900	6,640	584	53
Rhenish Provinces .	3,906	12,974	107,269	4,457	375
Total . .	35,877	246,294	401,210	16,937	4,085

PROVINCES.	Cotton Manufacture. Number of Looms.		Number of Looms.		
	a	b	Silk.	Ribbons.	Hosiery.
			a	a	a
Prussia Proper . .	46	33	..	13	38
Posen	25	..	..	5	5
Brandenburg . .	4,898	250	2,315	119	306
Pomerania . . .	30	17	..	4	14
Silesia	17,739	2,581	76	114	249
Saxony	3,775	780	129	840	351
Westphalia . . .	2,847	703	116	828	263
Rhenish Provinces .	9,964	1,325	11,475	2,417	892
Total . .	39,324	5,689	14,111	4,340	2,118

TABLE (B).

PROVINCES.	Area in Square Miles.	Population in the Years		Per Centage Increase in 9 Years, from 1825 to 1834.	Number of Inhabitants to a Square Mile, in 1834.	Proportion of Town to Country Population in 1834.
		1825	1834			
Prussia Proper.	5,419	1,914,725	2,073,275	8.28	382	1 to 3.1
Posen . . .	2,468	1,639,930	1,120,668	7.76	454	1 „ 3.
Brandenburg . .	2,608	1,478,871	1,651,320	11.66	491	1 „ 1.4
Pomerania . . .	3,362	846,722	941,193	11.15	361	1 „ 2.7
Silesia	3,412	2,312,687	2,547,579	10.15	746	1 „ 4.3
Saxony	2,119	1,361,582	1,490,583	9.47	703	1 „ 1.9
Westphalia . . .	1,693	1,184,589	1,292,902	9.14	764	1 „ 3.7
Rhenish } Provinces }	2,241	2,117,569	2,392,407	12.97	1,067	1 „ 2.9
Total . .	23,322	12,256,675	13,509,927	10.22	579	1 „ 2.8

TABLE (C).

PROVINCES.	Total Number of Looms.		Number of Looms to 10,000 Inhabitants.	
	<i>a</i>	<i>b</i>	<i>a</i>	<i>b</i>
Prussia Proper . .	1,443	101,067	7	487
Posen	2,257	22,374	20	199
Brandenburg . .	17,903	25,275	108	153
Pomerania . . .	2,874	35,749	30	379
Silesia	33,212	14,636	130	57
Saxony	11,838	14,637	79	98
Westphalia . . .	10,069	27,656	77	213
Rhenish Provinces .	33,111	14,674	138	61
Total . .	112,707	256,068	83	189

From these Tables it appears that in the three eastern provinces of the Prussian dominions—viz., Prussia Proper, Posen, and Pomerania,—in which agriculture is chiefly carried on, manufactures are very limited, with the sole exception of flax-spinning and the weaving of linens, which afford an occasional employment to the families of the agricultural laborers. Nearly two-thirds of the total number of looms engaged in this business within the Prussian States are found in these three provinces, and, on an average, 355 persons in every 10,000 possess a loom. With regard to population, this section of the kingdom is by far the most thinly inhabited, the average number of persons to a square mile being 399; while the increase of the population since 1825 in Prussia Proper and Posen, amounting to 8 per cent., was considerably less than in any other province. In Pomerania the increase has been above the average, but this is confined to the district of Cöslin, in which the population has increased since 1815 (nineteen years) no less than 44 per cent. None of the finer branches of manufacture, such as the silk, ribbon, or hosiery trades, is carried on in these provinces.

In Brandenburg the population averages 491 persons to a square mile, which is more dense than in the preceding provinces, but much less dense than in the remainder of the kingdom. The rate of increase, however, was 11·66 per cent., which is greater than in any part except the Rhenish provinces. Manufactures are very extensively carried on in Brandenburg: it contains more cotton spindles and woollen looms than any other province, and linen, cotton, and silk weaving flourish to a large extent. The proportion of the town to the country population in this province is very great: including Berlin, it is as 1 to 1·4; and, excluding that city, as 1 to 2·2.

In Silesia the country is densely populated (746 persons to a square mile), and the increase since 1825 was 10·15 per cent. Both the linen and cotton manufactures are carried on here to a greater extent than in any other province; the woollen manufacture is more limited, and the extent of the finer branches is very small. There are 130 looms regularly employed, and 57 occasionally employed, to 10,000 inhabitants. The latter system of manufacture is little followed in this province; it is comparatively greater in the cotton than in the linen or woollen trades. The proportion of the country to the town population in Silesia

is unusually great. The towns are few in number, and small in size, and hand-loom weaving is carried on to a great extent in the mountainous districts, where the weavers reside in detached cottages.

In Saxony the population is less dense than in Silesia (703 persons to a square mile), but the proportion residing in towns is nearly as great as in Brandenburg. The increase since 1825 has not been equal to the average of the kingdom. Manufactures of all kinds are carried on to a considerable extent, but the looms in occasional employment are more numerous than those regularly employed; the former are 98, and the latter 79, to 10,000 inhabitants. The ribbon and hosiery manufactures are prosecuted to some extent in this province.

Although Westphalia adjoins the Rhenish provinces, its condition, as regards both population and manufactures, is very different, with the exception of that part of the district of Arnsberg which touches and forms part of the manufacturing district of Düsseldorf. The number of inhabitants to a square mile in Westphalia is 764, in the Rhenish provinces 1,067. The increase since 1825 was 9·14 per cent. in the former, and 12·97 per cent. in the latter. There are in the former 77 looms constantly employed, and 213 occasionally employed, to 10,000 inhabitants; while the proportion in the latter is 138 looms constantly, and only 61 looms occasionally employed. In Westphalia the weaving of linens is carried on to some extent; but all other branches of manufacture are very limited, with the exception of that of ribbons, which belongs to the district adjoining Düsseldorf. In the Rhenish provinces, on the other hand, the manufacture of linens is small, while those of cotton (spinning and weaving), of wool, silk, ribbons, and hosiery, are very extensive. Westphalia approaches Silesia in the large proportion of the country to town population; but this arises not so much from the small number of towns as from the density of the population in the rural districts.

There exists great difficulty in comparing the extent of manufactures in the States of the Prussian Commercial Union with the extent to which they have attained in the United Kingdom. A comparison of the number of looms is insufficient, because the productive power of one loom differs enormously from that of another, and the machinery in use on the Continent is in general very defective. The quantity of raw material consumed, when it can be ascertained, affords a better criterion. With respect to flax, no data exist for estimating the quantities grown or brought into consumption. Of raw cotton the quantities left for consumption in the whole of the Prussian Union, in 1836, was under 18,000,000 lbs. The quantity entered for consumption during the same year, in the United Kingdom, was 363,680,000 lbs.; the amount of cotton-spinning, therefore, in the latter country, was twenty times greater than in the Union. But 32,731,000 lbs. of foreign cotton twist were imported into the latter countries, therefore the quantities of twist consumed in the two countries, in the same year, were 49,000,000 lbs. in the Union, and 253,000,000 lbs.* in the United Kingdom—the former amounting to about one-fifth of the latter. Of

* Deducting $1\frac{1}{2}$ oz. per lb. for loss in spinning from the quantity of raw cotton entered for consumption, and 88,000,000 lbs. of twist exported in 1836.

wool, the quantity left for consumption in Prussia alone, in 1834, was 24,000,000 lbs. ; in the United Kingdom the estimated consumption, in 1836, was 179,000,000 lbs. *, or seven times as much. The consumption of wool in the other States of the Union cannot be shewn, as the amount of the produce of their flocks is not stated. Of raw silk the quantities imported into the Prussian States, which is the principal seat of the silk manufacture in Germany, was estimated at 700,000 lbs. in 1832. During the same year 4,373,000 lbs., or six times as much, were consumed in the United Kingdom.

The consumption of manufactures in Prussia is very much below that of the United Kingdom ; and, therefore, notwithstanding the comparatively small amount of raw materials brought into use, a surplus of manufactured goods is left, which finds its way into foreign markets. There is no means of comparing accurately the quantities exported from the Prussian Union with the quantities of similar exports from this country, as the former are stated by weight, with scarcely any discrimination of kind or quality, and the latter in yards and pounds sterling. This deficiency, however, is of little consequence, as the British manufacturer is not so much interested in the actual amount of exports from these countries as in the questions of its increase, and of the price at which the goods can be produced and brought into those markets in which they compete with British manufactures. The latter is a subject distinct from the purpose of the present Paper, but the extent of the former has been shewn in the above statements up to the latest period to which the official documents extend. There is no doubt that during the last two years the manufactures of northern Germany have continued to increase rapidly ; and Austria has likewise recently begun to turn her attention to manufactures. The governments of these countries not only protect this branch of industry by imposing heavy duties on the importation of foreign goods which might interfere with it, but are willing to advance large sums of money for the purpose of encouraging the establishment of manufactories, the introduction of improvements, and the application of British skill and enterprise to German undertakings.

With these advantages it is impossible to predict how soon, or to what extent, the manufactures of Germany will interfere seriously with those of Great Britain ; they are as yet in their infancy, but their competition is already begun to be felt, not only in Central Europe but in other quarters of the globe. Still, while new markets are annually opening to European manufactures—while vast and populous countries, hitherto untrod by European foot, present new débouchés for the produce of the loom—while the consumption of Europe itself is rapidly increasing, and there yet remain civilized and flourishing countries, such as Prussia, in which the consumption of manufactures does not amount to one-half of that of Great Britain, there appears to be an ample field for the continued extension and prosperity of the manufacturing industry of both nations.

R.

* "Progress of the Nation," vol. i., p. 200.